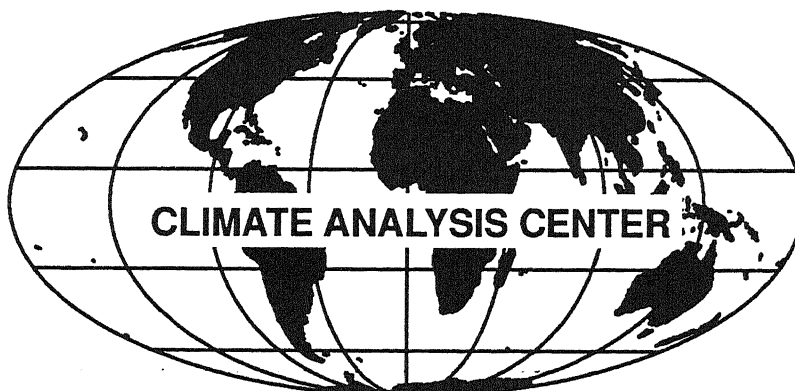


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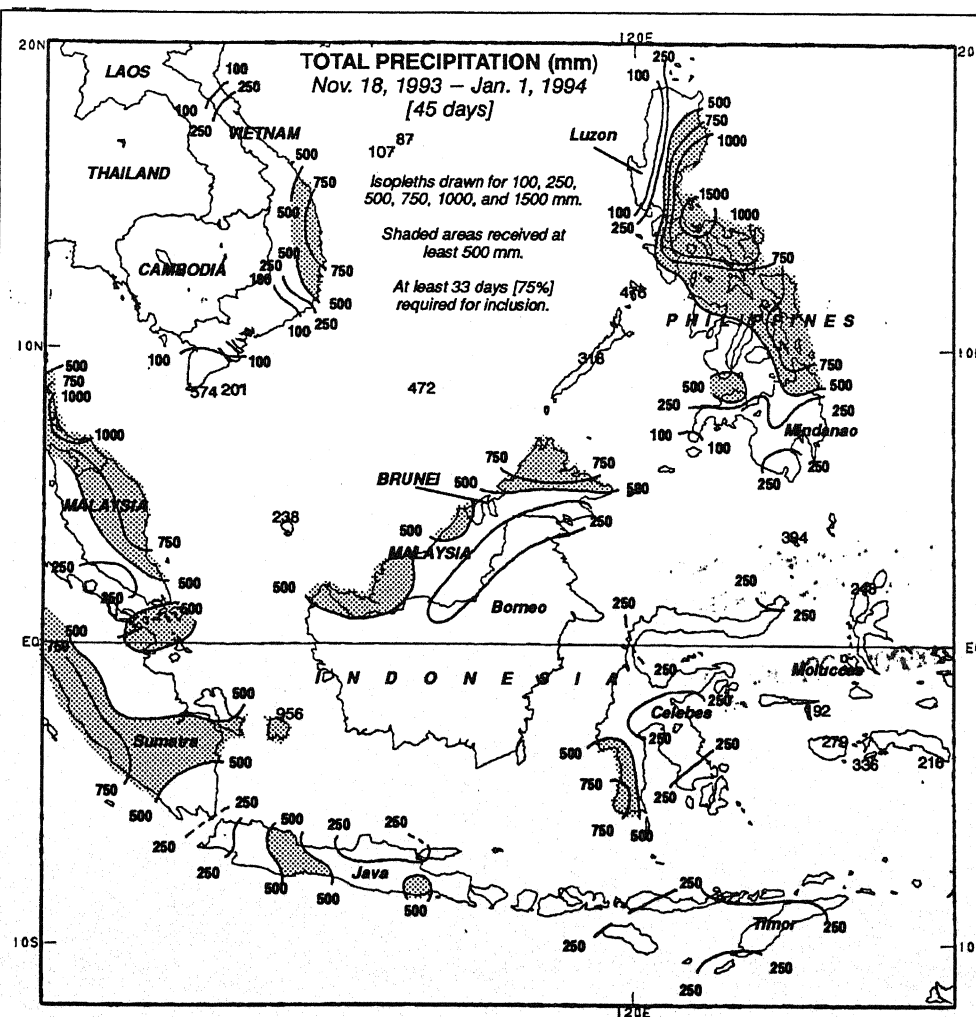


WEEKLY CLIMATE BULLETIN

No. 94/01

Washington, DC

January 5, 1994



STORMS BOMBARD MUCH OF THE PHILIPPINES, SOUTHEAST ASIA, AND INDONESIA, ENGENDERING SPORADIC SEVERE FLOODING. Yet another typhoon (Nell), the 32nd tropical cyclone to affect *The Philippines* last year, moved through the archipelago as 1993 drew to a close. Between 200 and 300 mm of rain deluged extreme southeastern Luzon, which combined with winds gusting to 150 kph to generate serious flooding through central parts of the country. According to press reports, dozens of lives were lost and nearly half a million individuals were forced from their homes as a result of Nell. The typhoon was the fourth tropical cyclone to hit the islands in a month, exacerbating a stormy pattern which began in mid-November. Up to 1560 mm of rain inundated southeastern Luzon since November 18, resulting in repeated episodes of flooding and devastation. Observed 45-day rainfall totals were over 150% of normal throughout the central and west-central Philippines, central Mindanao, and all but the western fringes of Luzon. More than nine times the normal fell on isolated locations in south-central Luzon. Several of the storms that traversed the Philippines continued westward into Vietnam, where 570–835 mm of rain along the central coastline was over twice the normal. Elsewhere, flooding also affected parts of Sumatra, Java, and Borneo, especially last week. Nearly 30,000 individuals were forced from their homes and almost two dozen lives were lost, according to press reports. Since November 18, 145%–165% of normal rain fell on west-central and north-western Malaysia while 120%–250% of normal was reported across central Sumatra, southern Java, Northern Borneo, and the central and southeastern Moluccas.



UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE-NATIONAL METEOROLOGICAL CENTER
CLIMATE ANALYSIS CENTER



WEEKLY CLIMATE BULLETIN

This Bulletin is issued weekly by the Climate Analysis Center and is designed to indicate, in a brief concise format, current surface climatic conditions in the United States and around the world. The Bulletin contains:

- Highlights of major climatic events and anomalies.
- U.S. climatic conditions for the previous week.
- U.S. apparent temperatures (summer) or wind chill (winter).
- Global two-week temperature anomalies.
- Global four-week precipitation anomalies.
- Global monthly temperature and precipitation anomalies.
- Global three-month precipitation anomalies (once a month).
- Global three-month temperature anomalies (once a month).
- Global twelve-month precipitation anomalies (every three months).
- Global twelve-month temperature anomalies (every three months).
- Special climate summaries, explanations, etc. (as appropriate).

Most analyses contained in this Bulletin are based on preliminary, unchecked data received at the Climate Analysis Center via the Global Telecommunications System. Similar analyses based on final, checked data are likely to differ to some extent from those presented here.

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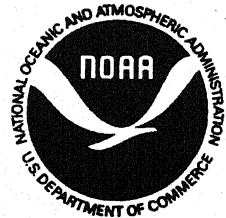
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GLOBAL CLIMATE HIGHLIGHTS

MAJOR CLIMATIC EVENTS AND ANOMALIES AS OF JANUARY 1, 1994

1. North-Central and Eastern United States:

SNOWSTORMS SNARL HOLIDAY TRAVEL.

Temperatures averaged as much as 7°C below normal as Arctic air plunged southeastward across the region. Lake-effect squalls dumped as much as 58 cm of snow on the lee of Lakes Erie and Ontario early in the week, and yielded another 25 cm as the week ended. The heavy snow and strong gusty winds hampered travel, with many highways closed by near-whiteout conditions. Meanwhile, up to 25 cm of snow blanketed much of central and eastern New England, forcing Boston's Logan International Airport to close, according to press reports. Farther south, substantial amounts of snow, sleet, and freezing rain covered parts of the mid-Atlantic and interior Southeast. The inclement weather caused a jetliner to skid off an ice-covered taxiway at Raleigh-Durham Airport, NC while in Washington, DC, Federal employees were sent home early so crews could clear roads around the Nation's Capital [Episodic Events].

2. East-Central South America:

MORE WET WEATHER.

Up to 120 mm of rain deluged parts of extreme northeastern Argentina and extreme southern Brazil, and almost 90 mm soaked parts of Uruguay. Six-week moisture surpluses remained near 260 mm in Uruguay and 190 mm in Argentina and Brazil [WET - 11 weeks].

3. Europe:

STORMS CONTINUE TO POUND THE REGION.

Heavy snow snarled holiday travel and resulted in cancelled sporting events across Scotland and northern England while torrential rains (up to 80 mm) inundated southern England. Farther east, as much as 50 cm of snow paralyzed traffic in Hungary, according to press reports [Episodic Events]. Meanwhile, Germany endured as much as 80 mm of rain while parts of former Yugoslavia were drenched by 90 mm. Since mid-November, moisture surpluses approached 170 mm in parts of Germany and climbed to 310 mm in Switzerland [WET - 5 weeks].

4. Southeastern Africa:

ABUNDANT RAINS PERSIST.

Heavy showers dumped as much as 85 mm on northeastern South Africa and 100 mm on Zimbabwe as an abnormally wet rainy season continued across southeastern Africa. Six-week moisture excesses approached 140 mm at some locations [WET - 9 weeks].

5. Japan:

DRIER WEATHER BRINGS RELIEF.

Although a few locations received up to 95 mm of rain, most of southern and western Japan observed less than 40 mm, allowing moisture surpluses to decline [WET - Ending at 10 weeks].

6. Taiwan:

LONG-TERM DRYNESS EASES.

Although less than 40 mm of rain was measured across the island, six-week moisture shortages dropped below 50 mm at most locations as a typically drier time of year approached [DRY - Ending at 29 weeks].

7. Southeastern Asia, Indonesia, and the Philippines:

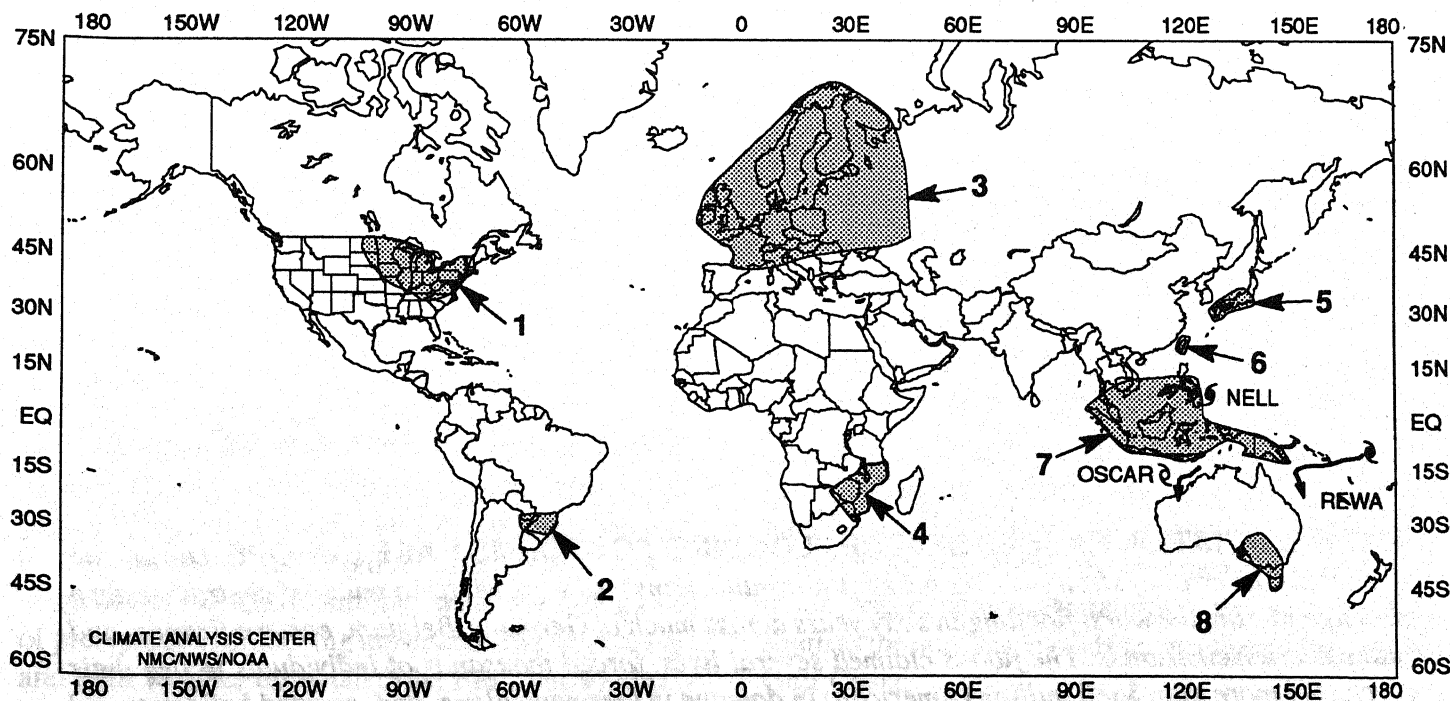
STRONG THUNDERSTORMS DRENCH REGION.

Up to 270 mm of rain inundated the Philippines as the 32nd tropical storm within a year, Typhoon Nell, battered the archipelago. According to press reports, more than 100 lives were lost and nearly 15,000 homes were destroyed by the typhoon as daily rainfall totals approached 185 mm on southeastern Luzon. To the west and south, rainfall totals topped 300 mm in northeastern Malaysia and parts of Indonesia and Papua New Guinea, causing severe flooding that claimed hundreds of lives and damaged thousands of dwellings [WET - 6 weeks].

8. Southeastern Australia:

ABNORMALLY WET CONDITIONS REDEVELOP.

As much as 150 mm of rain drenched the region, pushing six-week moisture excesses into the 50 to 240 mm range [WET - 6 weeks].



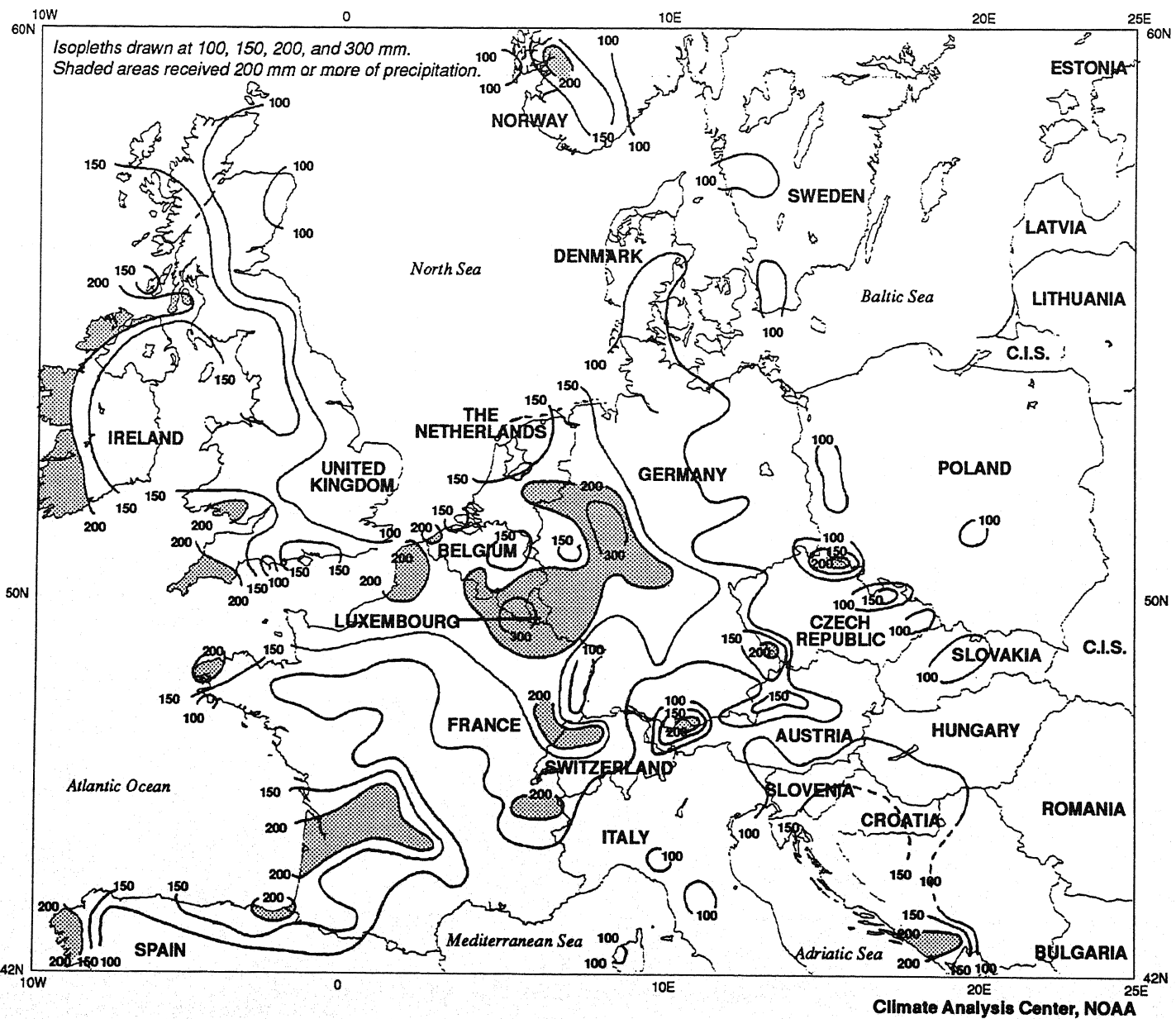
EXPLANATION

TEXT: Approximate duration of anomalies is in brackets. Precipitation amounts and temperature departures are this week's values.
MAP: Approximate locations of major anomalies and episodic events are shown. See other maps in this Bulletin for current two week temperature anomalies, four week precipitation anomalies, long-term anomalies, and other details.

GLOBAL CLIMATE HIGHLIGHTS FEATURE

TOTAL PRECIPITATION (MM)

December 7, 1993 – January 3, 1994 [28 Days]



HEAVY PRECIPITATION CAUSES SEVERE FLOODING AS STORMS RAKE EUROPE. During the last four weeks, a series of strong storms brought torrential rains and high winds to much of central western Europe, engendering the worst flooding in sixty years across much of Germany, Belgium, eastern France, and the southeastern Netherlands. The floods claimed several lives, forced thousands of individuals to flee their homes, caused more than \$580 million (American) in damage in Germany alone, and snarled holiday travel across the region, according to press reports. In addition, wintry weather closed airports and forced the cancellation of sporting events in the United Kingdom, hampered travel in Hungary and neighboring parts of Austria and Slovakia, and triggered avalanches in the Pyrenees and the French and Italian Alps.

UNITED STATES WEEKLY CLIMATE HIGHLIGHTS

FOR THE WEEK OF DECEMBER 26, 1993 – JANUARY 1, 1994

The week was characterized by the sharp contrast of bitterly cold Arctic air across the East with mild Pacific air throughout Alaska and the West. Snow and ice hampered holiday travelers in the Great Lakes, mid-Atlantic, and Northeast while bitterly cold weather forced the cancellation of a holiday parade in downtown Minneapolis and resulted in numerous stalled cars across the northern tier of states.

At the beginning of the week, bitterly cold air covered the upper Midwest as lows dipped to -50°F in Minnesota. Farther east, Arctic air, plunging southward across the relatively warm Great Lakes, generated lake-effect snow squalls that buried the shores of Lakes Erie and Ontario under 20 to 36 inches of snow. Interstate Route 271, near Cleveland, OH was closed by drifting snow, and a plane skidded off an icy runway at the Syracuse, NY airport, according to press reports. Farther south, freezing rain, sleet, and snow developed along the boundary separating relatively mild Gulf of Mexico air from the Arctic air mass. Several inches of snow and/or ice covered parts of the mid-Atlantic and interior Southeast around midweek. At Raleigh-Durham, NC a jetliner skidded off an ice-covered taxiway, but no injuries were reported. To the north, Federal agencies dismissed workers early in the Nation's Capital, allowing road crews to clear snow-covered highways. As the storm tracked northeastward, as much as ten inches of snow buried Boston, MA, closing Logan International Airport. Meanwhile, lake-effect squalls continued to pound the Great Lakes region, with another ten inches of snow falling on Erie, PA.

After midweek, Arctic air covered most of the eastern United States while a frontal system approached the Pacific Coast. Heavy rains soaked much of the Pacific Coast from northern California to southwestern British Columbia, with over four inches of precipitation drenching northwestern Oregon. Fair and cold weather dominated the East, but southerly

breezes resulted in slowly moderating temperatures on New Years Eve and New Years Day. As 1994 got underway, another Arctic air mass pushed into the north-central states.

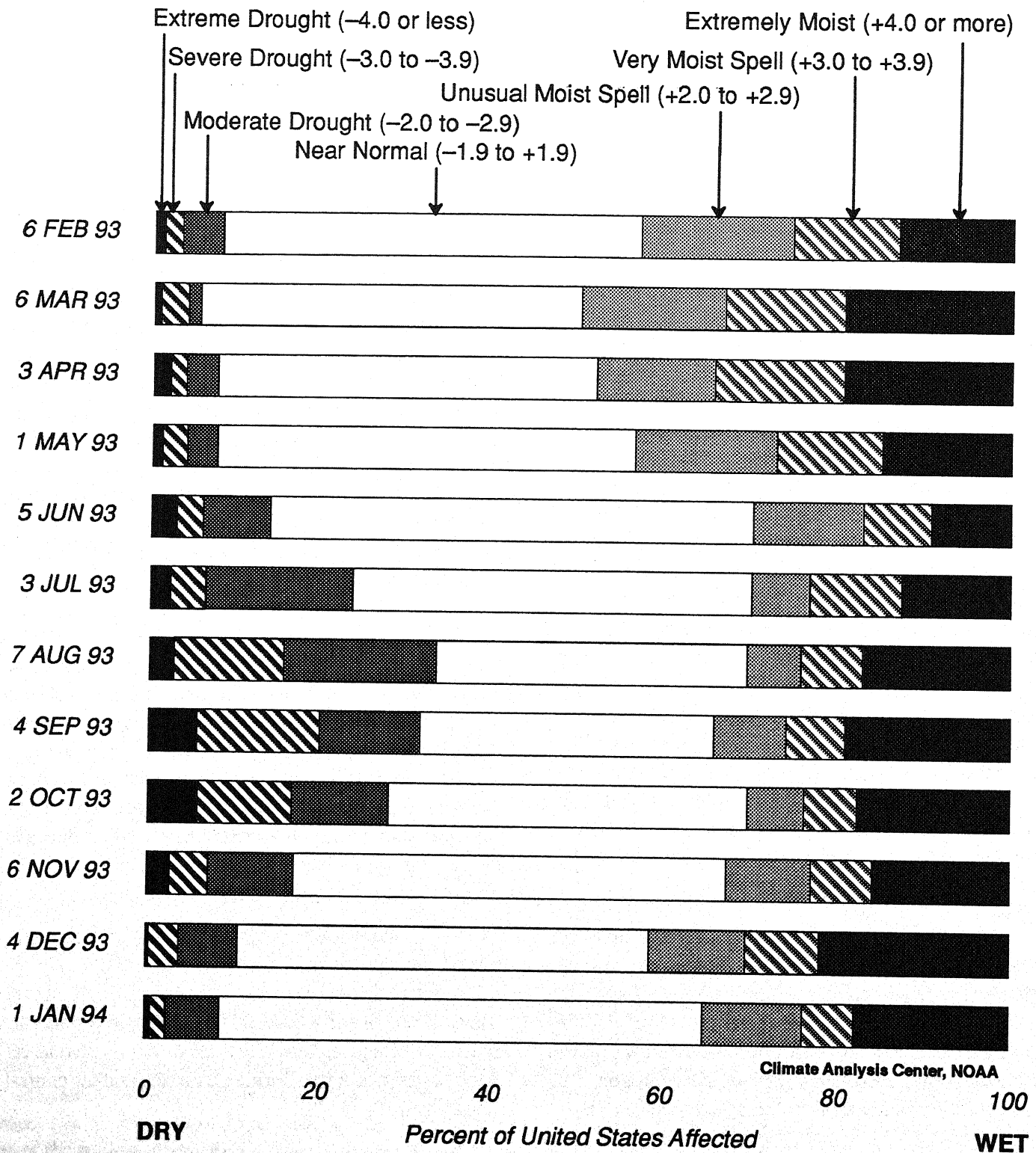
According to the River Forecast Centers, the greatest weekly precipitation totals (more than two inches) fell on parts of the southern Appalachians, north-central Florida, and much of western Washington and northwestern Oregon. Amounts exceeded one inch across most of the Southeast, much of the Pacific Northwest, and parts of Michigan. In addition, portions of southeastern Alaska received more than one inch of precipitation. Light to moderate amounts were measured in the central Rockies and in the lee of the Great Lakes while little or no precipitation fell on much of the nation from the Great Basin and southern California eastward to the Appalachians and Ohio Valley. Most of Alaska (except for the southeastern portion of the state) and Hawaii also received little or no precipitation.

Warmer than normal conditions prevailed across much of the West, with departures of $+6^{\circ}\text{F}$ to $+12^{\circ}\text{F}$ widespread across the northern and central Rockies and High Plains. In addition, temperatures averaged more than 6°F above normal in southern Arizona and western Nevada. Unseasonably mild weather also prevailed across Alaska, where weekly departures of $+15^{\circ}\text{F}$ to $+20^{\circ}\text{F}$ were common. Near normal temperatures were reported in Hawaii.

In sharp contrast, bitterly cold Arctic air dominated the eastern half of the country, with temperatures averaging 6°F to 16°F below normal across much of the upper Midwest, Northeast, and mid-Atlantic. Subfreezing temperatures were reported as far south as the northern Florida peninsula and the central Gulf Coast.

NORTH AMERICAN CLIMATE HIGHLIGHTS FEATURE

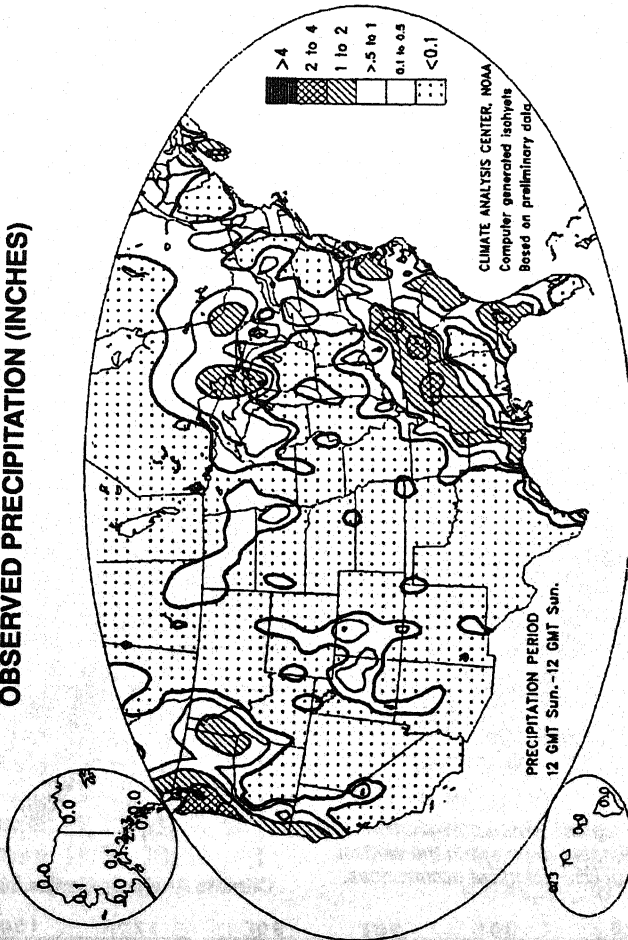
PERCENT OF UNITED STATES AFFECTED BY A WET SPELL OR DROUGHT, BASED ON THE PALMER INDEX



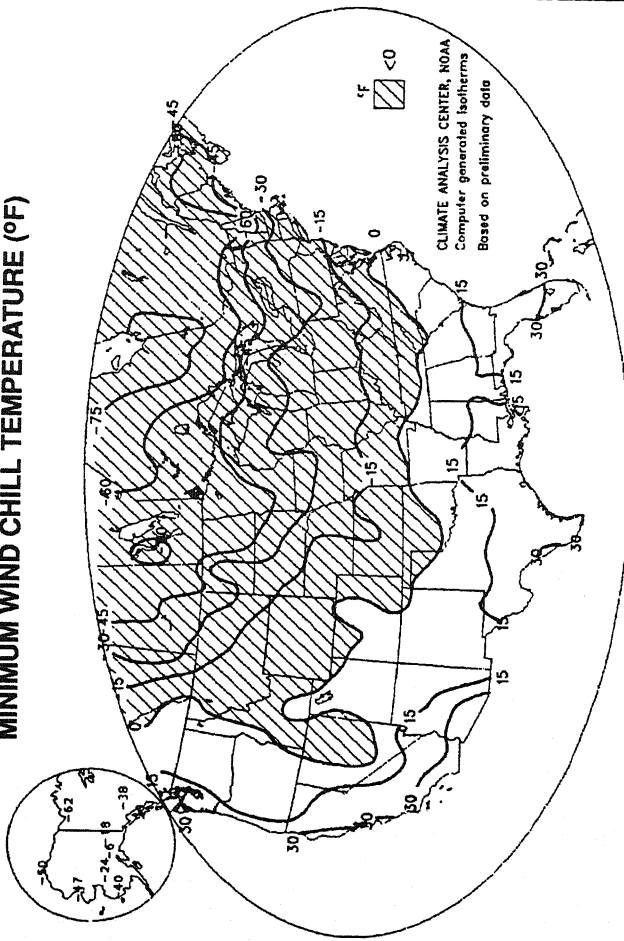
Percent of Area Affected by Wet Spells and Drought, as computed by the Climate Analysis Center. Based on a preliminary Palmer Drought Severity Index at -4 , -3 , -2 , $+2$, $+3$, and $+4$, computed by climate divisions. Dry conditions are on the left and wet conditions are on the right.

UNITED STATES WEEKLY CLIMATE CONDITIONS (December 26, 1993 – January 1, 1994)

OBSERVED PRECIPITATION (INCHES)



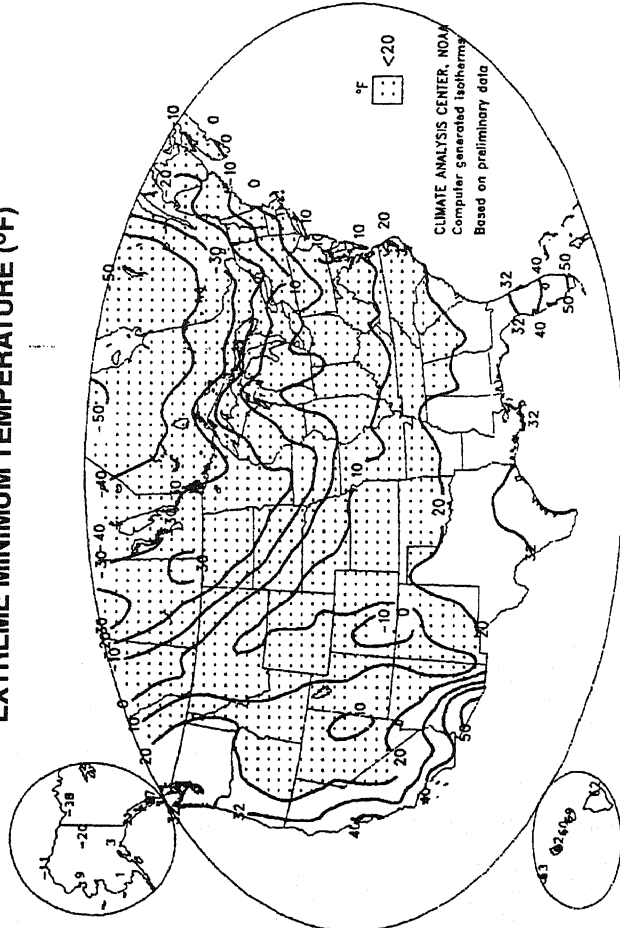
MINIMUM WIND CHILL TEMPERATURE (°F)



DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)

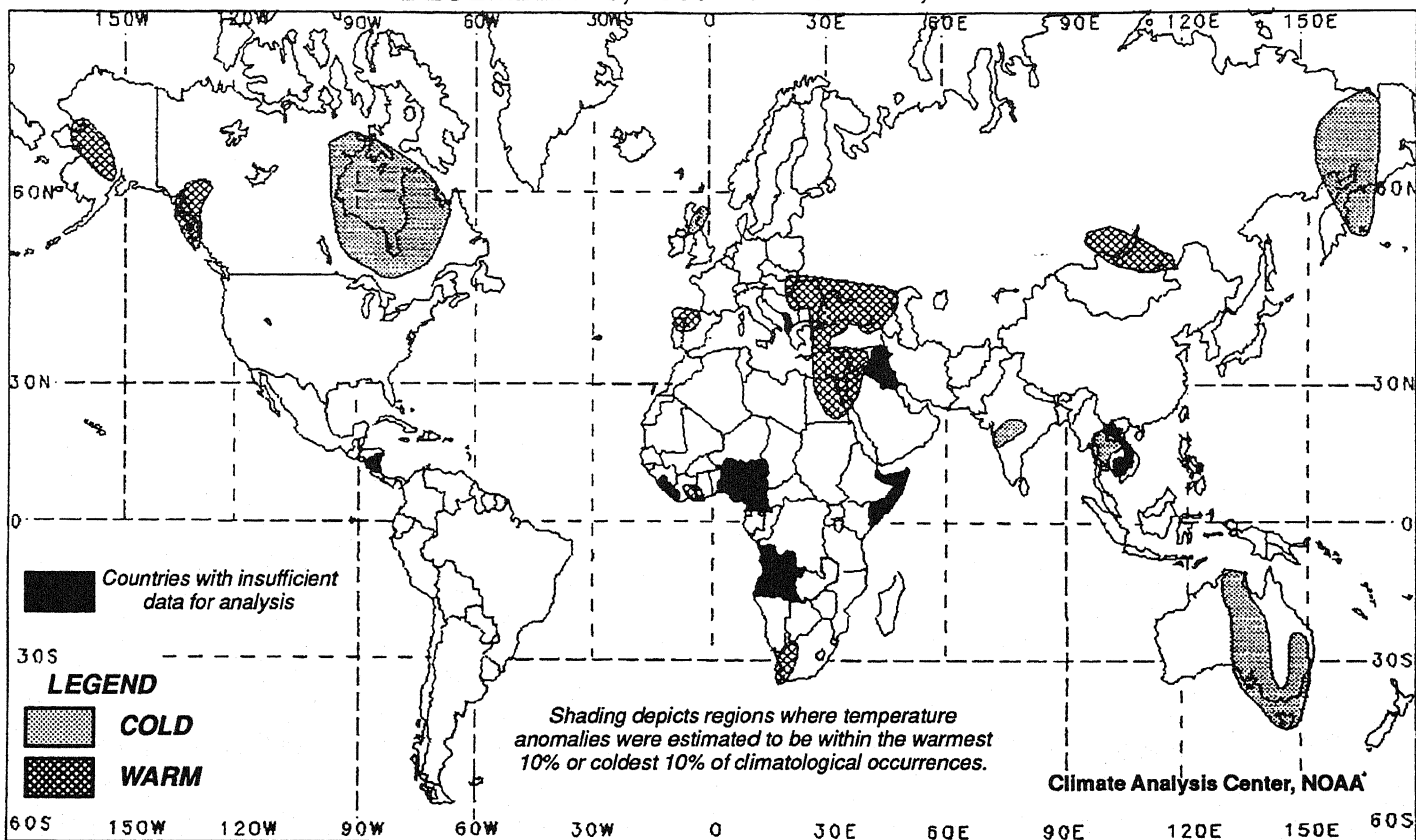


EXTREME MINIMUM TEMPERATURE (°F)



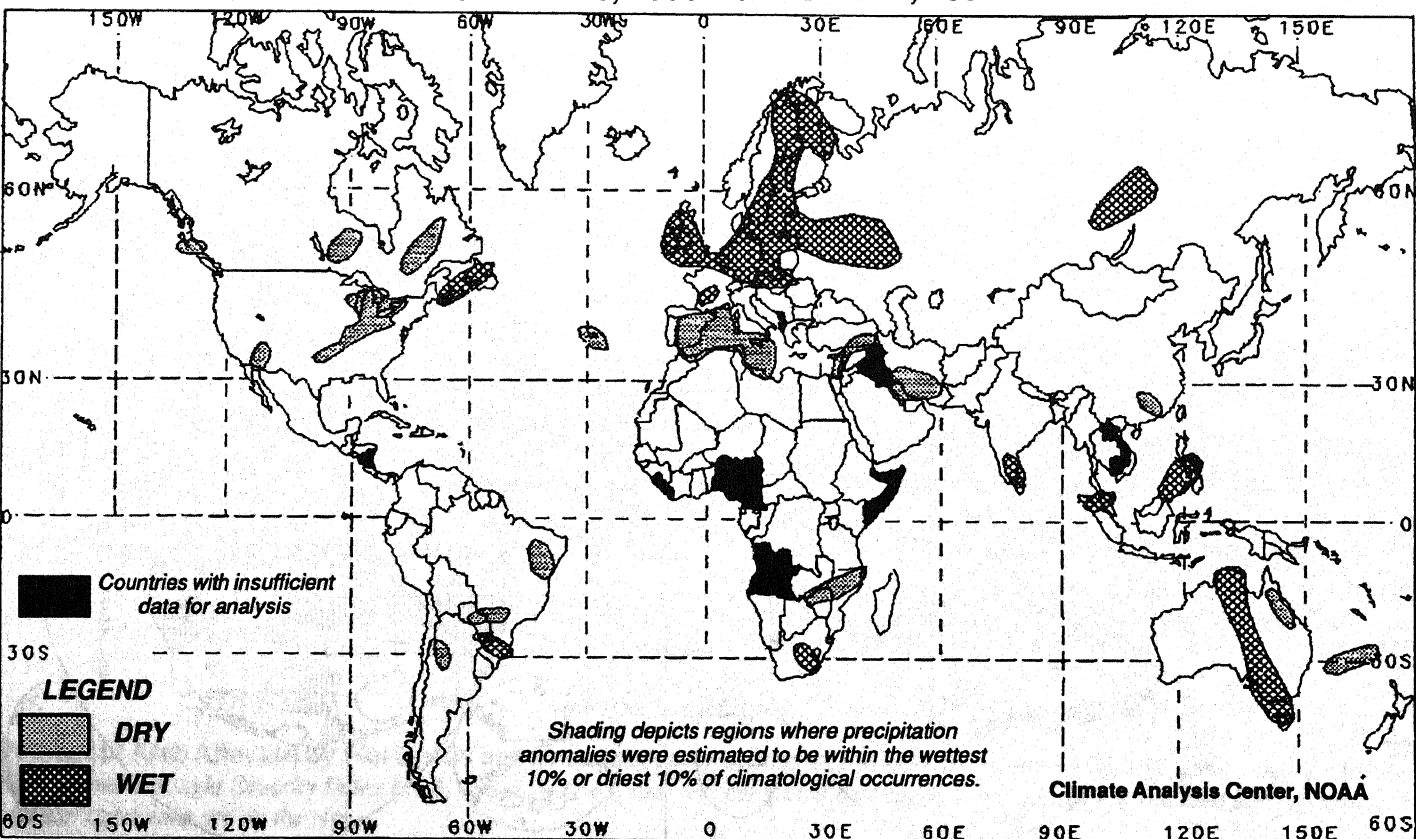
TWO-WEEK GLOBAL TEMPERATURE ANOMALIES

DECEMBER 19, 1993 – JANUARY 1, 1994



FOUR-WEEK GLOBAL PRECIPITATION ANOMALIES

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